Standard Strain Disks

Bulletin SD-100

Container Inspection

Quality control for glass containers includes procedures to verify that the glass is properly annealed.

The Standard Strain Disk Test Method (ASTM C-148) is an effective tool for evaluating residual stress in many types of glass containers. Strain Disks are used as reference standards to compare polariscopic colors exhibited by containers against colors exhibited by the Reference Disks.

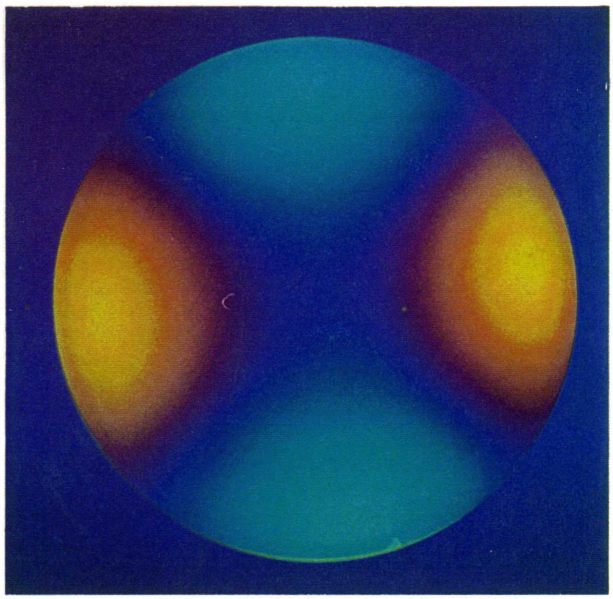
Strainoptic's set of Strain Disks consist of five standardized glass disks each exhibiting 22.7 nm retardation 6mm (.25 in) from the edge. The inspector compares the highest order retardation color observed at the container bottom to the color seen in one, two, three, four or five Strain Disks stacked one on top of the other.

By following a very simple procedure, the Temper Number of container bottoms and side walls can be easily identified using Strain Disks.

ASTM C-148 assigns a scale of "Temper Numbers" which correlate to retardation measured with a polarimeter as follows:

ASTM Temper Number	Retardation	Fringe Order	Equivalent Analyzer Rotation*
1	23 nm	0.04	00.0 - 07.3°
2	46 nm	0.08	07.4 - 14.5°
3	68 nm	0.12	14.6 - 21.8°
4	91 nm	0.16	21.9 - 29.0°
5	114 nm	0.20	29.1 - 36.3°

*ASTM C-148



Specifications

No. of Disks in a set	5
Clear Aperture	3.5 inches (89mm)
Base:	Anodized Aluminum
Swivel:	Stainless Steel
Retardation 1/4 inch from edge	22.7 nm
Instruction Manual	Included
Carrying Case	Included
Calibration Certificate	Included
Certification Services	Available
Shipping Weight	3 lbs